A PRELIMINARY REPORT ON THE RUSSULAE OF LONG ISLAND

By Gertrude S. Burlingham

Eastern District High School, Brooklyn

Field work on the genus *Russula* on Long Island has been limited to a region on the northern shore reaching from Cold Spring Harbor to Port Jefferson. The first collections of which we have published record were made by the state botanist, Dr. Charles H. Peck, near Port Jefferson. As a result of this work he described three new species of *Russula* in the State Museum Bulletin, number 50, published in 1897. In August, 1902, Dr. Peck, in company with Professor F. S. Earle, continued the search for fleshy fungi in the vicinity of Port Jefferson and Smithtown. From these collections two new species of *Russula* were described by Dr. Peck the following year in the sixty-seventh Bulletin of the State Museum. In 1909 Professor C. H. Kauffman described one new species, *Russula sphagnophila*, from Cold Spring Harbor. In the summer of 1912 I spent July and the early part of August at Cold Spring Harbor studying the *Russulae* and *Lactariae* of the locality. Although the season was unusually dry, I was able to secure 23 different species of *Russula*, four of which were undescribed.

In all, thirty-six species of *Russula* have been identified from Long Island, of which fourteen are European species and twenty-two American species. Nine of the latter have their type locality near Port Jefferson or Cold Spring Harbor. The European species reported from this region have a distribution in the United States both to the north and the south of Long Island. Of the American species eight, *R. albida* Peck, *R. compacta* Peck, *R. crustosa* Peck, *R. flavida* Frost, *R. Mariae* Peck, *R. subvelutina* Peck, *R. uncialis* Peck, *R. variata* Bann. & Peck, have a distribution from New England to Virginia, North Carolina, or Alabama. On the other hand, the distribution of three species, *R. albella* Peck, *R. Earlei*

Peck, and *R. pusilla* Peck, seems to extend toward the south only; while *R. betulina* Burl., *R. flaviceps* Peck, and *R. serissima* Peck have been reported from Long Island to the northward only. Of the type species from Long Island, *R. anomala* Peck, *R. magnifica* Peck, and *R. sphagnophila* Kauff. have been found only in the type locality. Although *R. blanda* Burl. has been found only at Cold Spring Harbor, several collections have been made in different localities and during different seasons.

One of the most abundant species of *Russula* found at Cold Spring Harbor was *R. Mariae* Peck. It grew in woods, by wooded roadsides, or even in the middle of sandy unfrequented roads. *R. pectinata* Peck, although not so widely distributed as *R. Mariae* Peck, occurred in abundance wherever found. One species resembling *R. decolorans* Fr. in some respects but with the wounded flesh turning red then gray is identical with an un published new species which Professor H. C. Beardslee has in manuscript.

The species referred to *R. obscura* Romell is very probably *R. rubescens* Beards. I am more inclined to this opinion because this autumn I have collected this on Staten Island and have seen fresh specimens of it from White Plains, N. Y. In fact since I began critical examination of the wounds of specimens resembling *R. obscura* Romell, I have seen none the wounds of which did not turn red as in *R. rubescens* Beards. When this was described in 1914 it was known only from the type locality. But since then it has been found in abundance around Boston, and in Newfane, Vermont.

The region included between Port Jefferson and Cold Spring Harbor lies in the part of Long Island covered with ice at the Ronkonkoma stage, and the soil is of a sandy or stony loam, and gravel structure. The woods are composed of mixed hardwoods with an abundance of oaks intermingled with chestnuts. It is possible that the seemingly limited distribution of certain species, and the apparent southern or northern distribution of others is due to lack of extensive field work or the rare occurrence of these species. On the other hand the character of the soil and the forest types may determine the southern or northern limit of distribution. Except as temperature affects the forest type it is

not probable that it affects the distribution of the *Russulae* on Long Island.

The work on this genus on Long Island has been only begun. It is probable that double the number of species found may yet be discovered when the work of collecting has been extended to the outwash plains toward the south and to the pine-bearing regions. The work thus far done has shown that we may expect to find not only those species ranging from New England to Virginia and southward, but some southern species which reach their northern limit in the latitude of New York, and certain northern species which extend their southern limit to Long Island. And it is possible that some species may prove to be found exclusively on Long Island.

AMERICAN SPECIES OF RUSSULA OCCURRING ON LONG ISLAND

1. RUSSULA ALBELLA Peck, Ann. Rep. N. Y. State Mus. **50**: 101. 1897.

Port Jefferson, Long Island, *Peck & Earle 812*, in herb. N. Y. Bot. Garden. This is the type locality of the species. It occurs in dry soil in deciduous woods. Its distribution in the United States extends south as far as Mississippi.

2. RUSSULA ANOMALA Peck, Ann. Rep. N. Y. State Mus. **50**: 99. 1897.

Only the type material of this has been found. It was collected at Port Jefferson, on damp ground under trees.

3. RUSSULA ALBIDA Peck, Bull. N. Y. State Mus. 1^2: 10. 1888.

Suffolk County, Long Island, *Peck*. The specimens are in the herbarium of the State Museum at Albany.

4. RUSSULA BETULINA Burl. N. Am. Fl. **9**: 227. 1915.

Port Jefferson, *Peck & Earle 805*, in herb. N. Y. Bot. Garden. The collection was made Aug. 5, 1902.

5. RUSSULA BLANDA Burl. N. Am. Fl. **9**: 213. 1915.

Cold Spring Harbor, type, *24*, 1912, in herb. Burl., extype, herb. N. Y. Bot. Garden and the Brooklyn Bot. Garden.

6. RUSSULA COMPACTA Frost & Peck; Peck, Ann. Rep. N. Y. State Mus. **32**: 32. 1880.

The specimens of this were collected by Peck in Suffolk County and reported in the N. Y. State Mus. Bull. **116**: 72. 1906.

7. RUSSULA CRUSTOSA Peck, Ann. Rep. N. Y. State Mus. **39**: 41. 1887.

Port Jefferson, *Peck & Earle 821*, in herb. N. Y. Bot. Garden; Cold Spring Harbor, *Burlingham*.

8. RUSSULA EARLEI Peck, Bull. N. Y. State Mus. **67**: 24. 1903.

Port Jefferson, *Peck & Earle 843*, type material in herb. N. Y. Bot. Garden, col. Aug. 6, 1902; also *878*, in herb N. Y. Bot. Garden, col. Aug. 2, 1902; Smithtown, *Peck & Earle 914*, herb. N. Y. Bot. Garden, col. Aug. 8, 1902.

9. RUSSULA FLAVICEPS Peck, Ann. Rep. N. Y. State Mus. **53**: 843. 1900.

Cold Spring Harbor, *Burlingham 45*, 1912.

10. RUSSULA FLAVIDA Frost & Peck; Peck, Ann. Rep. N. Y. State Mus. **32**: 32. 1880.

Port Jefferson, *Peck & Earle 884*, in herb. N. Y. Bot. Garden, col. Aug. 2, 1902.

11. RUSSULA HUMIDICOLA Burl. N. Am. Fl. **9**: 230. 1915.

Cold Spring Harbor, *Burlingham 20*, 1912, type. Abundant in thoroughly moist soil in woods. This has also been found in Massachusetts.

12. RUSSULA MAGNIFICA Peck, Bull. N. Y. State Mus. **67**: 24. 1903.

Port Jefferson, *Peck & Earle 841*, in herb. N. Y. Bot. Garden, col. Aug. 6, 1902. Thus far this species has not been reported from any other region.

13. RUSSULA MARIAE Peck, Ann. Rep. N. Y. State Mus. **24**: 74. 1872.

Cold Spring Harbor, *Burlingham*. Very abundant.

14. RUSSULA MODESTA Peck, Bull. N. Y. State Mus. **116**: 78. 1907.

Cold Spring Harbor, *Burlingham 52*, 1912.

15. RUSSULA PUSILLA Peck, Ann. Rep. N. Y. State Mus. **50**: 99. 1897.

Suffolk County, *Peck*, type material; Cold Spring Harbor, *Burlingham 50*, 1912.

16. RUSSULA SERISSIMA Peck, Bull. N. Y. State Mus. **139**: 44. 1910.

Cold Spring Harbor, *Burlingham 100*, 1912, August 3, 1912.

17. RUSSULA SPHAGNOPHILA Kauffman, Rep. Mich. Acad. Sci. 11: 86. 1909.

Cold Spring Harbor, type locality, collected by C. H. Kauffman. Distribution limited to the type locality.

18. RUSSULA SUBVELUTINA Peck, Bull. Torrey Club 33: 215. 1906.

Port Jefferson, *Peck & Earle 871*, in herb. N. Y. Bot. Garden, col. Aug. 6, 1902.

19. RUSSULA UNCIALIS Peck, Bull. N. Y. State Mus. 1[2]: 10. 1888.

Cold Spring Harbor, *Burlingham 91*, 1912. In moist oak and chestnut woods, Aug. 3, 1912.

20. RUSSULA VARIATA Bann. & Peck; Peck, Bull. N. Y. State Mus. 105: 41. 1906.

Port Jefferson, *Peck & Earle 853*, in herb. N. Y. Bot. Garden; Cold Spring Harbor, *Burlingham*.

21. RUSSULA VINACEA Burl. N. Am. Fl. 9: 217. 1915.

Cold Spring Harbor, *Burlingham 85*, 1912, type; *86*, 1912; *97*, 1912. Abundant in wet woods of oak and chestnut in early August. This species occurs also on Staten Island and in New Jersey.

22. RUSSULA CINERASCENS Beardslee (in manuscript).

Cold Spring Harbor, *Burlingham*.

EUROPEAN SPECIES OF RUSSULA FOUND ON LONG ISLAND

23. RUSSULA AERUGINEA Lindbl.; Fries, Monog. Hymen. Suec. 2: 198. 1863.

Cold Spring Harbor, *Burlingham 99*, 1912, Aug. 3, 1912.

24. RUSSULA DECOLORANS Fries, Epicr. Myc. 361. 1838.

Cold Spring Harbor, *Burlingham*. In wet woods of oak, chestnut, and red maple, Aug. 3, 1912.

25. RUSSULA DELICA Fries, Epicr. Myc. 350. 1838.

Cold Spring Harbor, *Burlingham*.

26. RUSSULA DENSIFOLIA (Secr.) Gill. Champ. Fr. 231. 1876.

Suffolk County, *Peck*, as reported in Bull. N. Y. State Mus. 116: 70. 1906.

27. RUSSULA EMETICA (Schaeff.) Pers. Obs. Myc. 1: 100. 1796.

Cold Spring Harbor, *Burlingham*. In moist woods on decaying log.

28. RUSSULA FLAVA Lindbl. Nord. Svampb. 27. 1895.
Port Jefferson, *Peck & Earle 828*, Aug. 5, 1902.

29. RUSSULA FOETENS (Pers.) Fries, Epicr. Myc. 359. 1838.
Cold Spring Harbor, *Burlingham 41*, 1912.

30. RUSSULA FRAGILIFORMIS Burl., Mycologia 8: 312. 1916.
Russula fragilis Fries, Epicr. Myc. 359. 1838.
Cold Spring Harbor, *Burlingham*, July 5, 1912.

31. RUSSULA HETEROPHYLLA Fries, Epicr. Myc. 352. 1838.
Cold Spring Harbor, *Burlingham*.

32. RUSSULA LEPIDA Fries, Sv. Aetl. Svamp. 50. 1836.
Port Jefferson, *Peck & Earle 854*, Aug. 6, 1902, and *887*, Aug. 7, 1902, in herb. N. Y. Bot. Garden.

33. RUSSULA OBSCURA Romell, Oefv. Sv. Vet.-Akad. Förh. 48: 179. 1891.
Cold Spring Harbor, *Burlingham 90*, 1912, Aug. 3, 1912. This is very possibly *R. rubescens* Beardslee. It is impossible to distinguish some of the dark specimens of *R. rubescens* from the typical *R. obscura*. Beardslee did not describe his species until 1914 and prior to that time no notes had been made of the flesh of red forms of *Russula* changing to red when wounded. The only way to distinguish these two positively is to observe the change in the wounds of fresh plants.

34. RUSSULA PECTINATA Fries, Epicr. Myc. 358. 1838.
Cold Spring Harbor, *Burlingham 42*, 1912. Very abundant in sandy soil. This is probably the species which Dr. Peck referred to *R. sororia* Fries, Bull. N. Y. State Mus. **116**: 84. 1907.

35. RUSSULA PURPURINA Quél. & Schulz.; Schulzer, Hedwigia **24**: 139. 1885.
Cold Spring Harbor, *Burlingham 75*, 1912. Moist woods, August.

36. RUSSULA SUBOLIVASCENS Burl. N. Am. Fl. **9**: 223. 1915.
Russula olivascens Fries, Epicr. Myc. 361. 1838.
Port Jefferson, *Peck & Earle 852*, in herb. N. Y. Bot. Garden, col. Aug. 6, 1902.

DOUBTFUL SPECIES

RUSSULA RUBRA Fries, Epicr. Myc. 354. 1838.
Suffolk County, *Peck*. Reported in Bull. N. Y. State Mus. **116**: 79. 1907.